

UNITROL's SIMPLICITY RESISTANCE WELDING CONTROL

Introducing the microcomputer based system that's engineered to have the cleanest possible design, uses a minimum number of components, and provides highest quality precision resistance welding.

You will agree that

S I M P L I C I T Y

sets a new standard in simple, cost effective welding controls providing absolute timing and heat setting accuracy.

- ★ replaces old controls on all resistance welders
- ★ ideal for installation on new welders
- ★ available as a complete unit or retrofit package

Now you can avoid old, unreliable welding controls with SIMPLICITY, the *ADVANCED BREAKTHROUGH* microcomputer based system. Even though it's been engineered and built with advanced high-tech materials and components, don't let the electronics and microcomputer words scare you— it's so simple, so foolproof, that any operator will quickly produce highest quality welding jobs. It's been tested and proven in all sizes and types of welding shops... and one is ready for shipment to your welding department today.

S I M P L I C I T Y

in installation

It's designed for easy installation without the need for special electronic knowledge or fancy equipment. Each system is shipped complete in a single, ready-to-mount control cabinet. Easy-to-follow, step-by-step directions for installation are included. A typical installation and basic 7 wire hookup should take about an hour and a half.

Important Note: Standard automatic power factor and digital electronics eliminate the need for any adjustments or calibrations. In fact, the SIMPLICITY has nothing to adjust—ever.

S I M P L I C I T Y

in flexibility

To meet all your needs, SIMPLICITY includes as standard provisions for 2 stage initiation, single stage initiation, pressure switch interlock, limit switch interlock, external no weld, emergency stop, transformer over temperature, and contactor over temperature.

S I M P L I C I T Y

in maintenance

In the unlikely event of service, replacement of the P.C. board component should restore operation immediately. Replacement boards are always in stock for immediate shipment. In by noon—out by 4 PM. And you'll like this—Unitrol's Exclusive 5 Year Limited Warranty protects your investment and assures you of years of continuous production.



S I M P L I C I T Y

in functions

NAME	OPERATION	RANGE	APPLICATION
SQUEEZE	Dwell Before Firing	0-99 Cycles	Allows Tips to fully Close Before Welding
WELD	Main Heat and Weld Time	0-99 Cycles 0-99% Heat	All Welding
HOLD	Dwell After Welding	0-99 Cycles	Allows Nugget to Cool
REPEAT MODE	Controls Opening and Closing of Tips While Initiation is Closed	0-99 Sec.	Allows "Automatic" Run of Welder
HALF CYCLE	Changes Welding Time to Half Cycle Timing	-	Welding of Thin Metal Components
POSITIVE/NEGATIVE	Choice of First Half Cycle Polarization	-	Welding of Thin Metal Components
NO WELD	Weld Sequence Without Power to Transformer	-	Test Part Alignment & Fixtures

S I M P L I C I T Y

in available options

NAME	OPERATION	RANGE	APPLICATION
UP SLOPE	Ramps Current Upward to Weld Heat %	0-99 Cycles 0-99 Init. %	Galvanized & Coated Metal. Projections
DOWN SLOPE	Ramps Current Downward from Weld Heat %	0-99 Cycles 0-99% Final %	Aluminum, High Carbon Steel
PULSATION	Repeats Weld Sequence Without Opening Tips	0-9 Pulses 0-9 Cy. Cool	Heavy Metal Welding
DUAL HEAT/TIME	External Selection of Two Welding Schedules	0-99 Cycles 0-99 % Heat	Welding Different Combinations of Same Part
SEAM WELD	Continuous or Intermittent	0-9 Cy. Cool	Seam Welding
TRANSGUN PROTECTION	Personnel & Equipment Safety	-	Provides Required Safety for Hand-Held Transguns

S I M P L I C I T Y

in pricing

A pleasant surprise— with all the above features and benefits, Unitrol's SIMPLICITY prices start at around \$1000.00

S I M P L I C I T Y

in operation

There is no special training needed to operate SIMPLICITY. Settings are instantly made on direct reading thumb wheel switches. Dual level initiation gives your operator complete control where it counts most—at the welding tips. Indicator lights shine to verify power, solenoid operation, and weld in progress. And our quartz accuracy eliminates the need for continuous resetting.

S I M P L I C I T Y

in design

You will find all electronic components, including the power transformer, are conveniently located on one 7" x 8" printed circuit board. Your hook up wires are easily connected to terminals on the same P.C. board eliminating the need for wiring harnesses and interconnecting cables.

And if you require the addition of a control option, it can be installed without the need for additional electronics or circuit boards.

S I M P L I C I T Y

in performance

Your SIMPLICITY control will have the capability to do spot and projection welding on such materials as cold rolled, galvanized, stainless and aluminum.

In addition, an automatic repeat function, included as standard, allows for quality continuous high-speed welding.

S I M P L I C I T Y

in safety

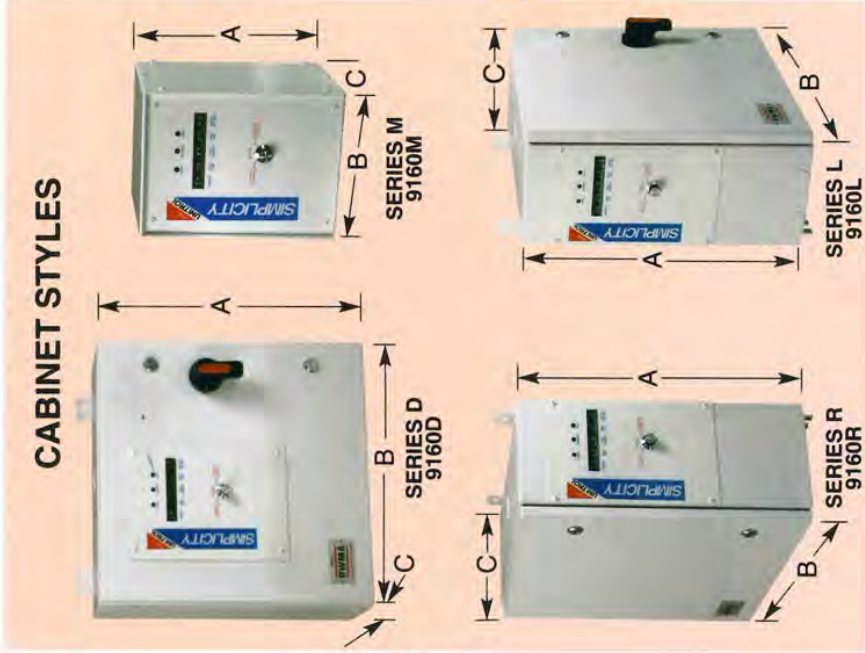
A complete NEMA interlocking relay system, extra cost on some other brands, is included as standard along with photo optical isolation on all inputs and outputs. The SIMPLICITY also protects your welding transformer with an exclusive computer generated inrush protection system (replaces older "87½ first half cycle firing").

Specifying and ordering the Unitrol Simplicity Welding Control is as easy as using it.

Just follow these easy steps to select a SIMPLICITY that matches your welder:

- 1. Find the **primary voltage** of your welder in the **red** area of the chart below.
 - 2. Move the **downward** from this **primary voltage** and circle the blue box that includes the KVA as shown on the nameplate of your welder.
 - 3. From this point, move to the **right** for the SIMPLICITY Model Number in the column that lists the desired **circuit protection** and **cabinet style** (see photos at right). Note that circuit breakers are recommended for most production welding systems.
- EXAMPLE:** The correct SIMPLICITY controls with circuit breaker protection for a 50 KVA spot welder working at 460 volts are: 9160L-810 or 9160D-810 (depending on desired cabinet style).

- 4. Order this model number from your authorized Unitrol representative or distributor who will recommend control options. All components are carried in factory stock for fast delivery. We can usually handle one day emergency control needs for "down" situations.
- 5. Now get ready to experience the easiest to use control in the resistance welding industry!



WELDER PRIMARY VOLTAGE					MODEL NUMBER		CABINET SIZE	
115 Volts	208 Volts	230 Volts	375 Volts	460 Volts	575 Volts		Without Protection	
1-7 KVA	1-15 KVA	1-15 KVA	1-25 KVA	1-30 KVA	1-40 KVA	9160M-9F0 9160L-9F0 9160D-9F0 9160R-9F0	With High Speed Fuse	12 9 20 9 20 9 20 9
8-15 KVA	16-30 KVA	16-35 KVA	26-50 KVA	31-65 KVA	41-80 KVA	9160M-8G0 9160L-8G0 9160D-8G0 9160R-8G0	With Circuit Breaker	12 9 20 9 20 9 20 9
16-35 KVA	31-75 KVA	36-80 KVA	51-130 KVA	66-170 KVA	81-200 KVA	9160M-6H0 9160L-6H0 9160D-6H0 9160R-6H0	Without Protection	12 9 20 9 20 9 20 9
36-60 KVA	76-120 KVA	81-130 KVA	131-200 KVA	171-250 KVA	201-325 KVA	9160M-6J0 9160L-6J0 9160D-6J0 9160R-6J0	With Circuit Breaker	12 9 20 9 20 9 20 9
61-100 KVA	121-200 KVA	131-250 KVA	201-450 KVA	251-500 KVA	326-600 KVA	9160L-4K0 9160D-4K0 9160R-4K0	Without Protection	12 9 20 9 20 9 20 9

The following controls are designed to replace all electronic components in any existing welding controls.
For use with existing SCR contactors

- 1. Without enclosure.....9160M-SOO
- 2. With 9" x 12" x 8" NEMA-1 enclosure.....9160M-SCO

For use with existing IGNITRON contactors

- 1. Without enclosure.....9160M-GOO
- 2. With 9" x 12" x 8" NEMA-1 enclosure.....9160M-GCO

5 YEAR WARRANTY

Your investment is protected by the exclusive Unitrol 5 year Limited Warranty. Factory labor and parts (excluding fuses) are fully covered for the first year. On all systems, this warranty is extended for an additional 4 years on a Pro Rata basis (exclusive of fuses, SCR, circuit breaker, and transducers).

CONDITIONS OF COVERAGE

Parts and Labor are FOB our factory. Warranty card included with each system gives full details of this limited warranty along with all other conditions of coverage.

UNITROL

To order or for more information contact:
UNITROL ELECTRONICS, INC.
702 Landwehr Road
Northbrook, Illinois 60062
PHONE: 847-480-0115, 800-621-4244
FAX: 847-480-0932
email info@unitrol-electronics.com
www.unitrol-electronics.com

RWMA
Resistance Welder Manufacturers Association

SO-1298
Printed in U.S.A.